Load Carriage: Reconditioning for the Return to Work of Tactical Athletes.

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TITLE: Load Carriage: Reconditioning for the Return to Work of Tactical Athletes

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BACKGROUND: Tactical athletes, like police officers, fire-fighters and soldiers, carry external loads as an occupational requirement. For police officers these loads can weigh up to 27 kg, fire fighters up to 37 kg, and soldiers over 50 kg. Not only are these load weights increasing, but research suggests that once a load carriage injury has been sustained, the carrier is at a high risk of subsequent load carriage injuries. Therefore, optimizing the load carriage capacity of injured tactical athletes as part of their reconditioning is a vital component of return to work programs.

PURPOSE: To detail the optimized load carriage conditioning dose for the return to work planning of injured tactical athletes.

METHODS: Research papers and technical reports were gathered from several academic (Pubmed, CINAHL, Medline and ProQuest) and military databases (DEFWEB and the Defense Technical Information Centre). Search terms related to conditioning for load carriage were adapted to meet the capabilities of the relevant search engines and included variations of ‘load’, ‘carry’, ‘marching’, ‘pack’,’ conditioning’, ‘training’, ‘aerobic’, ‘resistance’. Once all initial papers were gathered, they were reviewed for their specificity to load carriage conditioning for tactical populations.

RESULTS: The 236 research papers and technical reports yielded two key reviews of the literature that not only encompassed the key research papers on load carriage conditioning, but investigated the training effects of these combined papers and presented them in practical clinical terms. The key findings of these reviews and underlying papers suggested that, in isolation, aerobic training and resistance training are limited in improving load carriage performance. However, in combination, the

use of a both aerobic training and a periodised strength training program produced a desirable training effect. This training effect is further strengthened by the addition of dedicated load carriage exercises. For the combined aerobic training and strength training program a minimum training frequency of three to four days per week is recommended, while for load carriage specific training a single session every 7 to 14 days is required.

CONCLUSION: When rehabilitating tactical athletes for return to workplace it is recommended that an aerobic and periodised strength training program, interspersed with specific load carriage activities, form part of their treatment plan. The load carriage conditioning should progress in intensity (load weight, speed and terrain type) and volume (duration and distance) up to the requirements of the tactical athlete's workplace. Failure to optimize this task specific reconditioning may increase the potential for the tactical athlete to suffer ongoing workplace injuries. Future research should investigate the use of load carriage conditioning programs specifically aligned to known load carriage mechanisms and sites of injuries.

IMPLICATIONS: 1. Return to work plans for tactical athletes must include a load carriage specific reconditioning program. 2. A combination of aerobic and resistance training, together with specific load carriage activities, must form the basis of this reconditioning program. 3. Failure to employ a dedicated and optimised load carriage program may predispose the tactical athlete to future injuries.

KEYWORDS: tactical, load carriage, injuries, return to work, rehabilitation

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